

REMARKS

Summary of Changes Made

The undersigned thanks Examiner Nagpaul for several conversations by telephone regarding the invention. This application was originally filed with 10 claims, which were canceled in a preliminary amendment that added claims 11-27. Claims 1-13, 15, and 27 were canceled in a previous amendment. Claim 14 is amended to incorporate the language of claim 11. Claims 16, 23, and 24 remain unchanged. Claims 17-22, 25, and 26 were previously amended. New claims 28-35 have been added herein. Accordingly, claims 14, 16-26, and 28-35 (20 claims) remain pending. No new matter has been added by this amendment.

Withdrawn Rejections

Applicants expressly acknowledge that the rejections of claims 11, 17, and 19 under § 102(b), and the rejections of claims 12, 13, 21, 22, 25, and 27 under § 103(a), both over Rees, have been withdrawn in light of the previous Amendment, filed September 23, 2005.

Claim Rejections - 35 U.S.C. §102(b) (Martinsky)

The Examiner rejected claims 14, 17, and 19 under 35 U.S.C. § 102(b) as being anticipated by Martinsky, U.S. 6,101,946 (“Martinsky”), newly cited. The Examiner contends that Martinsky teaches a sample dispenser for applying liquid samples of less than one microliter to a sample absorbing area, with a sample dispenser body **28** having all characteristics recited in claim 14. The Examiner directs the reader to Figs 3A-5, the Abstract, and col. 6, lines 53-55 and believes that figure element **28** corresponds to the claimed dispenser body, and elements **22** and **40** correspond to the recess. The Examiner further asserts that the hollow cone shaped recess is made by drilling (col. 4, lines 49-67) and is polished (col. 5, lines 5-8). The Examiner further contends that the recess is a free end face of the sample dispenser in the form of an elongated body **28**, and that the body **28** has as its tip **20** a cylindrical section, which is provided with two parallel flattened walls (Figs. 3B-4).

The Examiner will note that claim 14 has been amended to contain the limitation “wherein the recess has a depth of less than 50% of its width.” This limitation was found in original claim 2, claim 11 as presented in the preliminary amendment filed together with the

application, as well as in the specification at page 7, lines 6-7. The Martinsky reference fails to disclose or suggest this limitation.

Martinsky neither discloses nor suggests a hollow sphere or a hollow cone. Elements **22** and **40** in Fig. 3B of Martinsky, often cited by the Examiner, are cut through with Electrical Discharge Machining (EDM). The Examiner will note that the drawing lines bounding sample channels **22** and **40** are solid, not dashed. Hence, sample channels **22** and **40** are not cylindrical, but cut through; that is, one could slip a sheet of sufficiently thin paper, while held flat, into and through the slot at the end of the printing pin depicted in Fig. 3B of Martinsky. Figure 2A also appears to indicate that sample channel **22** is not cylindrical, but tapered. Square apex **23** also would tend to indicate that sample channel **22** is not cylindrical. Further evidence that sample channel **22** is not cylindrical is that, in providing “anti-rotation flats” on the upper guide of a printing pin, “[c]utting is done with a fixed orientation in respect to the sample channel **22** in the end of the pin,” col. 6, lines 15-17. If sample channel **22** were cylindrical, there would be no ascertainable “orientation” with respect thereto; all orientations would be equivalent, and no mention of orientation would be necessary. With respect to sample channel **40**, only a single text reference is made thereto, at col. 6, lines 54-57. The Examiner’s determination that the sample dispenser body has two parallel flattened walls came from her review of Figs. 3B and 4. In Fig. 3B, the walls are clearly not parallel. In Fig. 4, it is unclear whether sample channel **40** has parallel walls. What is clear about sample channel **40** is that it does not have the shape of a segmented hollow sphere. The foregoing also indicates that the feature “continuous edge” as defined in instant claim 14 is missing in the printing pin depicted in Figs. 3A-5 of Martinsky. Further, sample channel **22** and sample reservoir **40** are not cylindrical and not spherical. No form of the words “sphere” or “circle” appears in Martinsky, and sample channels **22** and **40** are not cylindrical and the walls are not parallel owing to the bending disclosed at col. 4, line 59 to col. 5, line 44.

With respect to claim 16, Martinsky fails to disclose that the sample channel **22** is drilled. Martinsky’s sole disclosure of drilling is with respect to the sample holder as noted at col. 3, line 51 to col. 4, line 23, which is within the section of the Detailed Description entitled “A. The Holder.” The lines cited by the Examiner as disclosure of drilling (col. 4, lines 49-67) refer not to drilling, but exclusively to wire EDM. The cited portion provides:

Pin shafts **28** that meet the tolerances are then machined with a wire electronic discharge machine (EDM) to define the point **20** of the pin and the sample channel **22**, shown in FIG. 2A. The outer surfaces of the point are machined with four separate EDM cutting steps. Care must be taken to ensure that the apex **23** of the four cuts forms a point in the geometric center of the pin shaft **28**. The point **20**, for example, may have a dimension **206** of 0.0040" (tolerance of -0.0005") square. The EDM is then used to cut the sample channel **22** to a depth **202**. Thus, as illustrated in FIG. 2A, the sample channel is cut from one side of point **20** to the other and is, consequently, an exterior sample channel.

Although Martinsky discloses that "other means" (such as saw blades and lasers) can be used to form sample channel **22** (col. 5, lines 3-8), all disclosed means to form sample channel **22** and all related discussion indicates a square sample channel ("Care must be taken to ensure that the apex **23** of the **four cuts** forms a point in the geometric center of the pin shaft **28**... [t]he point **20**, for example, may have a dimension **206** of 0.0040" (tolerance of -0.0005") **square**, (emphases supplied) (col. 4, lines 50-54)." Given the intricate procedure described in making the printing pins (col. 4, line 23 to col. 6, line 35) and the absence of any disclosure of drilling, it would appear that no part of the sample pin **28** is drilled in any contemplated embodiment.

With respect to instant claims 25 and 26, the walls of Martinsky's sample channel **22** are **not parallel** because, following the cutting to form sample channel **22**, the points **20** are bent, and the sample channel **22** is characterized as a square pyramid:

Bending of the points is accomplished by applying uniform pressure on opposing points approximately 0.1" from the end of the points **20**. Applied pressure should be sufficient to move the opposing points to within several tenths (0.0003") of touching to allow relaxation of the points after the pressure is released. The gap **30** at the end of sample channel **22** after relaxation should be adjusted such that the two halves of the square **pyramid** form a gap **30** with a final width **204** of 0.0008-0.0010". Very sharp corners are required on the functional end of the pin.

8iIn summary, as exhaustively demonstrated hereinabove, Martinsky fails to disclose or suggest all elements of claims 14, 17, and 19. Applicants respectfully assert that such claims are patentable.

Claim Rejections - 35 U.S.C. §103(a) (Martinsky)

The Examiner rejected claims 16 and 18-26 under 35 U.S.C. § 103(a) as unpatentable over Martinsky. The Examiner admits that Martinsky fails to explicitly teach the different

ranges of diameters of the cylinder section of the tip and the spacing of the parallel flat walls. However, the Examiner contends that it would be obvious to modify the device of Martinsky to achieve an optimum droplet size and dispenser volume.

Please refer to the extensive discussion hereinabove which clearly distinguishes the present invention from Martinsky. As stated above, there are significant differences between the instantly claimed dispenser and the device of Martinsky: briefly, the device of Martinsky contains neither an internal cylinder nor parallel flat walls in conjunction with a hollow segmented spherical sample recess. Applicants maintain that one skilled in the art would not be motivated to modify the device of Martinsky because one skilled in the art would not look to Martinsky for any guidance relative to the present invention. Further, skill in the art alone cannot be relied upon to provide the suggestion to combine or modify references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161, 1171 (Fed. Cir. 1999). Even assuming *arguendo* that there was motivation to make such modifications, the presently claimed dispenser would not result from such modifications. Hence, the rejection fails. The Examiner is invited to revisit her conclusions leading to the rejection of claims 16 and 18-26.

New Claims

New claims 28-35 have been added to round out claim coverage. Claim 28 recites one embodiment claimed in the alternative in claim 14 (recess in shape of hollow cone); claim 32 recites the other embodiment claimed in the alternative in claim 14 (recess in shape of segmented hollow sphere). Claims 29-31 apply the limitations of claims 16, 21, and 25, respectively, to claim 28. Claims 33-35 apply the limitations of claims 17, 21, and 25, respectively, to claim 32. No new matter is added thereby. Based on the previously asserted patentability of claim 14, Applicants hereby assert that claims 28-35 are patentable because no cited reference discloses or suggests all limitations of claims 28-35.

CONCLUSION

In light of the foregoing, it is respectfully submitted that the present application, including claims 14, 16 - 26, and 28 - 35 (20 claims) is in condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge the same to our Deposit Account No. 18-0160, our Order No. HUB-12804.

Respectfully submitted,

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